query	LVAFADFG-SVTFTNAEATSGGSTVGPSDATVMDIEQDGSVLTETSVSGDS-VTV
sequence1	LVAFADFG-SVTFTNAEATSGGSTVGPSDATVMDIEQDGSVLTETSVSGDS-VTV
sequence2	LVPFANFG-TVTFTGAEATTSSGTVTAADATLIDIEQNGEVLTSVTVSGST-VTV
sequence3	LVQFANFG-TVTFTGASATQNGESVGVTGAQIIDLQQN-SVLTSVSTSSNS-VTV
sequence4	LVNFADFD-TVTFKDCSPSVSGSTIVDIRQSLEVLTECSTTGTTTVTC
sequence5	FVPFASFSPAVEFTDCSVTSDGESVSLDDAQITQVIINNQDVTDCSVSGTT-VSC
sequence6	FVPFASFSPAVEFTDCSVTSDGESVSLDDAQITQVIINNQDVTDCSVSGTT-VSC
sequence7	FVPFASFSPAVEFTDCSVTSDGESVSLDDAQITQVIINNQDVTDCSVSGTT-VSC

	В	Ι	G	T	0	M	N	S	0	W	N
В	2										
I		2									
G	-		2								
В	2										
R											
0					2				2		
W						2				2	
N							2				2
Т				2							
0					2				2		
M						2				2	
N							2				2
0					2				2		
W	$T^{-}$	1				2				2	
N	T			T			2				2

FIGURE 2.

	В	Ι	G	Т	0	W	N	Ş	0	M	N
В	2										_
I		2									_
G			2					_			
В	2										_
R											_
0					2				2		
M						2				2	
И							2				2
Т				2							
0					2				2		
W						2				2	
N							2				2
0					2				6	0	0
M	0	0	0	0	0	4	0	0	0	4	0
N	0	0	0	0	0	0	2	0	0	0	2

FIGURE 3.

	В	I	G	Т	0	M	N	S	0	M	N
В	2										_
I		2				]			_		_
G			2								4
В	2									_	_
R										_	0
0				8	12	6	3	2	6	0	
W	10	12	10	7	6	10	4				0
N	9	10	12	8	5	4	8	4	1	0	2
T	6	7	8	12	6	4	4	6	2	0	0
0	4	6	5	6	10	6	4	3	6	0	٥
W	3	4	6	4	4	8	6	4	1	4	0
N	2	3	4	6	2	3	6	6	2	0	2
0	0	0	1	2	6	0	1	2	6	0	0
M	0	0	0	0	0	4	0	0	0	4	0
N	0	0	0	0	0	0	2	0	0	0	2

FIGURE 4.

	В	Ι	G	Т	0	M	N	S	0	M	N
В					-						
Ι											
G											
В											
R											
0											
W					0	61	3	4	5	6	7
N					2			****			
T					3			-			
0					4						
W					5						
N					6		,				
0					7						
W					8						
N					9						

FIGURE 5.

	В	Ι	G	Т	0	W	N	S	0	W	N
В	16	10	8	7	4	3	2	1	0	0	0
Ī	12	14	9	8	6	4	3	2	0	0	0
G	10	12	12	9	6	6	4	3	0	0	0
В	10	10	12	10	7	4	6	4	1	0	0
R	10	9	10	12	8	5	4	6	2	0	0
0	12	10	9	8	12	6	3	2	6	0	0
W	10	12	10	7	6	10	4	3	0	4	0
N	9	10	12	8	5	4	8	4	1	0	2
T	6	7	8	12	6	4	4	6	2	0	0
0	4	6	5	6	10	6	4	3	6	0	0
W	3	4	6	4	4	8	6	4	1	4	0
N	2	3	4	6	2	3	6	6	2	0	2
0	0	0	1	2	6	0	1	2	6	0	0
M	0	0	0	0	0	4	0	0	0	4	0
N	0	0	0	0	0	0	2	0	0	0	2

FIGURE 6.

BIG-TOWNSOWN---

BIGBROWNTOWNOWN

Similarity = 18. Gap = -2. Total Score = 16

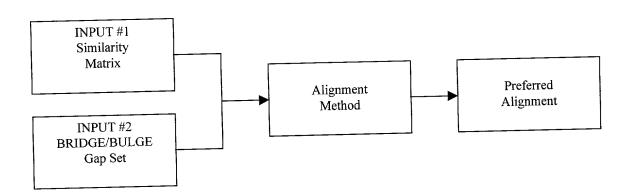


FIGURE 8

Gap Type	Start Res.	End Res.	# Residues
BULGE	3 (G)	5 (O)	7
BRIDGE	7 (N)	9 (O)	1

FIGURE 9.

	В	I	G	T	0	W	N	S	0	W	N
В			T,				7				
I			<b>n</b> \				ĸ				
G							۲		<u> </u>		
В			4/				۲				
R			7/	M	<u> </u>		Κ				
0			1/	III			8		<b>\</b>		
W			4/	III	$\Lambda$		3		<u> </u>		1
N			1/	III	$M_{I}$		۴		ightharpoons	ļ.,	
Т			$\Box$	M	$M_{-}$		15		<b>&gt;</b>		_
0				M	<u> </u>	<u> </u>	1	~	$\geq$		
W				I	$M_{I}$		15		ightharpoons	_	-
N					Ш		•		$\geq$	-	-
0				_	$M_{\bullet}$		r				-
W			1_		1/1		7				
N					\						

FIGURE 10

Г	T	В	I	G	T	0	W	N	S	0	W	N
В	T	2										_
I	Ť		2							$\perp$		_
G				2							_	
В		2							$\perp$			
R	1											
0	$\top$					2				2		
W	T						2				2	_
N	7							2		_		2
T	1				2							
C	7					2				2		
W	7						2				2	
N	1				$\top$			7	6	1	0	2
7	>	0	0	0	1	6	0	0	1	6	0	0
V	v.	0	0	0	0	0	4	0	0		4	0
1	1	0	0	0	0	0	0	2	0	0	0	2

FIGURE 11.

Express Mail No. EL533097460US 265/297 Debe 12 of 38

	В	I	G	Ť	0	M	N	S	0	W	И
В	2										
Ι		2									
G			12	7	5	6	3	0	0	0	0
В	7	9	12	9	2	5	O)	a)	0	Φ.	0
R	8	6	- 5	12	5	1	5	ю	1	0	0
0	11	8	6	Б	12	5	1	1	6	0	0
M	8	11	8	3	5	10	3	0	0	4	0
N	6	8	11	8	3	5	8	3	0	0	2
Т	6	6	8	11	6	3	5	6	1	0	0
0	3	6	3	6	11	6	3	1	6	0	0
W	1	3	6	3	4	9	6	3	0	4	0
N	0	1	3	6	1	1	7	6	1	0	2
0	0	0	0	1	6	0	0	1	6	0	0
W	0	0	0	0	0	4	0	0	0	4	0
N	0	0	0	0	0	0	2	0	0	0	2

FIGURE 12

	В	I	G	Т	0	M	N	S	0	W	N
В											
I											
G											
В				-0	3	5	7	9	11	13	15
R				3							
0				5							
M				7							
N				9							
Т				11							
Ö				13	1						
M				15							
И				17							
0				E							
W				21							
N				23							

FIGURE 13

П	В	Ι	G	T	0	W	N	S	0	W	И
В	16	9	5	6	3	0	Ō	0	0	0	0
I	12	14	7	5	6	3	0	0	0	0	0
G	9	12	12	7	5	6	3	0	0	0	0
G			7					3	0	0	Ö
В	7	9	12	9	2	5	6	3	,		
R	8	6	5	12	5	1	5	6	1	0	0
0	11	8	6	\5	12	5	1	1	6	0	0
W	8	11	8	B	5	10	3	0	0	4	0
И	6	8	11	8	3	5	8	3	0	0	2
T	6	6	8	11	6	3	5	6	1	0	0
0	3	6	3	6	11	6	3	1	6	0	0
W	1	3	6	3	4	9	6	3	0	4	0
N	0	1	3	6	1	1	7,	6	1	0	2
0	0	0	0	1	6	0	0	1	6	0	0
W	0	0	0	0	0	4	0	0	0	4	0
N	0	0	0	0	0	0	2	0	0	0	2

FIGURE 14.

# FIGURE 15

BIG-----TOWNSOWN
BIGBROWNT-OWN-OWN Sim. = 18. Gap = -2. Total Score = 16.

ISSUETYS BYTHE



FIGURE 16

>P1;1b4k

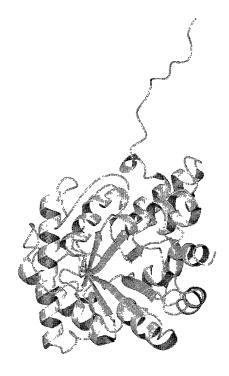
structureX:1b4k: 10 :A : 335 :A :

YPYTRLRRNRRDDFSRRLVRENVLTVDDLILPVFVLDGVNQRESIPSMPGVERLSIDQLLIEAE EWVALGIPALALFPVT: PVEKKSLDAAEAYNPEGIAQRATRALRERFPELGIITDVALDPFTTH GQDGILDDDGYVLNDVSIDVLVRQALSHAEAGAQVVAPSDMMDGRIGAIREALESAG: HTNVRI MAYSAKYASAYYGPFRDAVGSASNLGKGNKATYQMDPANSDEALHEVAADLAEGADMVMVKPGM PYLDIVRRVK: DEFRAPTFVYQVSGEYAMHMGAIQNGWLAE: SVILESLTAFKRAGADGILTYF AKQAAEQLRR\*

>P1;SC001

sequence:SC001: 13 : : 340 :

EISSVLAGGYNHPLLRQWQSERQLTKNMLIFPLFISDNPDDFTEIDSLPNINRIGVNRLKDYLK PLVAKGLRSVILFGVPLIPGTKDPVGTAADDPAGPVIQGIKFIREYFPELYIICDVCLCEYTSH GHCGVLYDDGTINRERSVSRLAAVAVNYAKAGAHCVAPSDMIDGRIRDIKRGLINANLAHKTFV LSYAAKFSGNLYGPFRDAACSA::PSNGDRKCYQLPPAGRGLARRALERDMSEGADGIIVKPST FYLDIMRDASEICKDLPICAYHVSGEYAMLHAAAEKGVVDLKTIAFESHQGFLRAGARLIITYL APEFLDWLDE\*



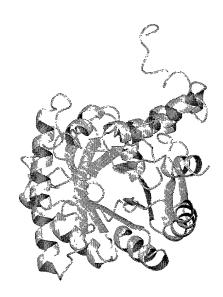


FIGURE 18

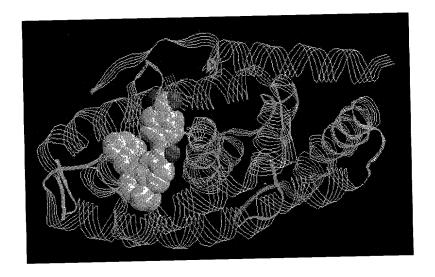


FIGURE 19

>P1;1a28

structureX: 1a28A : 701 : : 915 : :

 $\label{thm:construction} A \texttt{G} HDNTKPDTSSSLLTSLNQLGERQLLSVVKWSKSLPGFRNLHIDDQITLIQYSWMSLMVFGLGWRSYKHVS\\ GQMLYFAPDLILNEQRMKESSFYSLCLTMW-QIPQEFVKLQVSQEEFLCMKVLLLLNTI-PLEGLRSQTQFE\\ EMRSSYIRELIKAIGLRQKGVVSSSQRFYQLTKLLDNLHDLVKQLHLYCLNTFIQSRALSVEFPEMMSEVIA\\ A*$ 

>P1;gi7766906

sequence: gi7766906 : 27 : : 233 :

 $\label{thm:coadkolftlvewakriphfselplddvillragwnelliasashrsia--vkdgillatglhvhrnsahsagvgaifdrvltelvskmrdmomdktelgclraivlfnpds--kglsnpaevealrekvyasleayckhkyp---eqpgrfaklllrlpalrsiglkclehlff-fkligdt--pidtflmemlea*$ 

#### FIGURE 20

rotantententrologia en el ajar a errota esta esta matemata (1910) | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919 | 1919

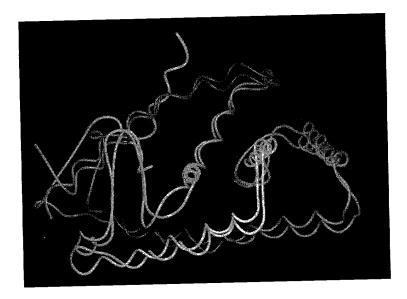


FIGURE 21

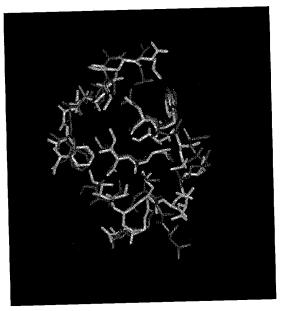


FIGURE 22

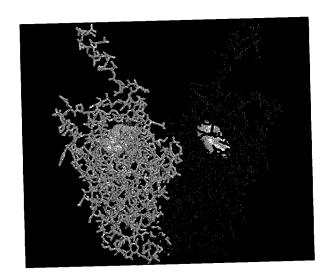


FIGURE 23

>P1;1a28
structureX: la28A : 682 : : 921 : :
QLIPPLINLLMSIEPDVIYAGHDNTKPDTSSSLLTSLNQLGERQLLSVVKWSKSLPGFRNLHIDDQITLIQY
SWMSLMVFGLGWRSYKHVSGQMLYFAPDLILNEQRMKE-SSFYSLCLTMWQIPQEFVKLQVSQEEFLCMKVL
LLLn----TIPLEGLR---SQTQFEEMRSSYIRELIKAIGLRQKGVVSSSQRFYQLTKLLDNLHDLVKQLHL
YCLNTFIQSRALSVEFPEMMSEVIAAQLPKIL\*
sequence: gi3659931 : 14 : : 254 :
LTADQMVSALLDAEPPILYSEYDPTRPFSEASMMGLLTNLADRELVHMINWAKRVPGFVDLTLHDQVHLLEC
AWLEILMIGLVWRSMEHP--GKLLFAPNLLLDRNQGKCVEGMVEIFDMLLATSSRFRMMNLQGEEFVCLKSI
ILLNSGVYTFLSSTLKSLEEKDHIHRVLDKITDTLIHLMAKAGLTLQQQHERLAQLLLILSHIRHMSNKGME
HLYSMKCKN---VVPLYDLLLEMLD-AHR-LH\*

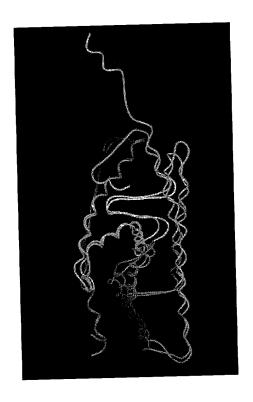


FIGURE 25

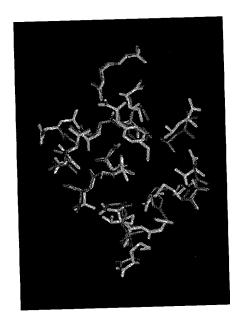


FIGURE 26

>P1;1c3w structureX: 1c3wA : 5 : : 231 : :

 $\label{thm:constraint} TGRPEWIWLALGTALMGLGTLYFLVKGMGVSDPDAKKFYAITTLVPAIAFTMYLSMLLGYGLTMVPFGGE--QN----PIYW-ARYADWLFTTPLLLLDLALLVDADQGTILALVGADGIMIGTGLVGALTKVY--S--YRFVWWAISTA-AMLYILYVLFFGF-----SMRPE-VA-STFKVLRNVTVVLWSAYPVVWLIGSEG----AGI---VPLNIETLLFMVL-DVSAKVGFGLILLRSRAIFG*$ 

>P1;1e12A

سنست بالقالقات المستوافقات المستراب المتقالة المالية

sequence: 1e12A : 4 : : 236 :

ENALLSSSLWVNVALAGIAILVFVYMGRTIRPGRPRLIWGATLMIPLVSISSYLGLLSGLTVGMIEMPAGHA
LAGEMVRSQW-GRYLTWALSTPMILLALGLLADVDLGSLFTVIAADIGMCVTGLAAAMTTS---ALLFRWAF
YAISCA-FFVVVLSALVTDWAASASSAGT--A--EIFDTLRVLTVVLWLGYPIVWAVGV-----EGLALVQ
SVGATSWAYSVL-DVFAKYVFAFILLRWVANNE\*

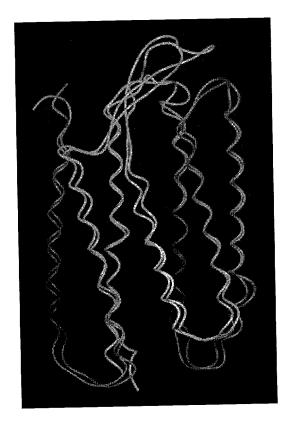


FIGURE 28

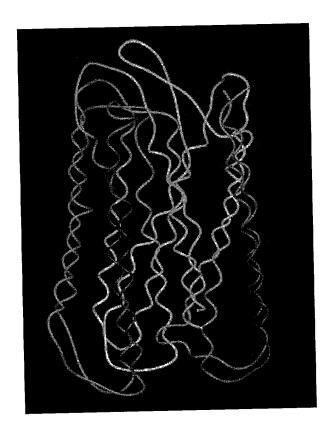


FIGURE 30

>P1;6prc
structureX: 6prcL : 14 : : 258 : : GTLIGGDLFDFWVGPYFVGFFGVSAIFFIFLGVSLIGYAASQG-P------TW-DPFAISINPPDLKYGLG
A-APLLEGGFWQAITVCALGAFISWMLREVEISRKLGIGWHVPLAFCVPIFMFCVLQVFRPLLLGSWGHAFP
YGILSHLDWVNNFGYQYLNWHYNPGHMSSVSFLFVNAMALGLHGGLILSVANP-GD----GD-------KVKTA-EHENQYFRDVVGYSIGALSIHRLGLFLASNIFLTGAFGTIASGPFWTRG\*
>P1;6prcM
sequence: 6prcM : 34 : : 292 :
YSYWLGKIGDAQIGPIYLGASGIAAFAFGSTAILIILFNMAAEVHFDPLQFFR--QFFWLGLYPPKAQYGMG
I-PPLHDGGWWLMAGLFMTLSLGSWWIRVYSRARALGLGTHIAWNFAAAIFFVLCIGCIHPTLVGSWSEGVP
FGIWPHIDWLTAFSIRYGNFYYCPWHGFSIGFAYGCGLLFAAHGATILAVARFG------GDREIEQITDRG
T--AV--ERAALFWRWTIGFNATIESVHRWGWFFSLMVMVSASVGILLTGTFVDNW\*

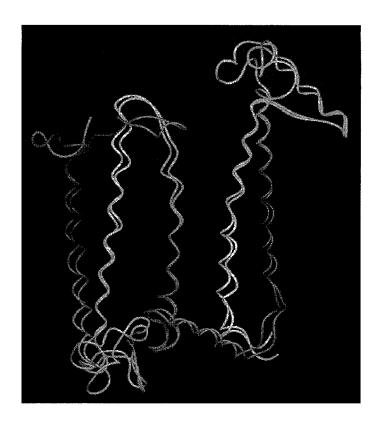


FIGURE 32

>P1;1qj8

structureX: 1qj8A: 4::148::

TVTGGYAQSDAQGQM-NKMGGFNLKYRYEEDNSPLGVIGSFTYTE-K--SRTASSGDYN-KNQYYGITAGPA
YRINDWASIYGVVGVGYGKFQTTEYPTYK-NDTSDYGFSYGAGLQFNPMENVALDFSYEQSRIRS------VDVGTWIAGVGYRF\*

>P1;1bxwA

sequence: 1bxwA: 19::171:
YHDTGLINNN--GPTHENKLGAGAFGGYQV-NPYVGFEMGYDWL--GRMPYKGSVENGAYKAQGVQLTAKLG
YPITDDLDIYTRLGGMVWRADTY-SNVYGKNHDTGVSPVFAGGVEYAITPEIATRLEYQWTNNIGDAHTIGT
RP-DNGMLSLGVSYRF\*

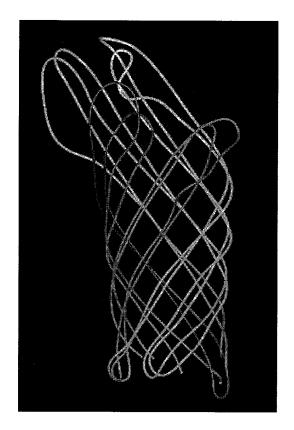


FIGURE 34

>P1;2por structureX: 2por : 1 : : 301 :  ${\tt EVKLSGDARMGVMYNGDD---WNFSSRSRVLFTMSGTTDSGLEFGASFKAHESVG-----AETGEDGTV}$  $\mathtt{SA----GAFSVAASMS--DGKV-------GETSED------DAQ---EMAVAAAYT-F--G}$ NY---TVGLGYEKIDSP-----DTAL------MADMEQLELAAIAKFGATNVKAYYADGELDRDFARAV  $\verb|FDLTPVAAAATAVDHKAYGLSVDSTFGATTVGGYVQVLDIDTIDDVTYYGLGASYDLGGGASIVGGIADNDL|\\$ PNSDMVADLGVKFKF\* >P1;losmA sequence: losmA : 10 : : 332 : KLDLYGKIDGLHYFSDDKDVD-GDQTYMRLGVKGETQINDQLTGYGQWEYNVQ-ANNTESSSDQAWTRLAFA GLKFGDAGSFDYGRNYGVVY-DVTSWTDVLPE------FGGDTY-----GSDNFLQSRANGVATYRN- ${\tt SDFFGLVDGLNFALQY---QGKNGSVSGEGATNNGRGAL---KQN------GD----GFGTSVTYD-I--F}$ D----GISAGFAYANS-----KRTDDQNQLLLGEGDHAETYTGGLKYDANNIYLATQYTQTYNATRAGSL--GFANKAQNFEVAAQYQFDFGLRPSVAYLQSKGKDLNG-YGDQDILKYVDVGATYYFNKNMSTYVDYKINLL DDNSFTRSAGISTDD\*

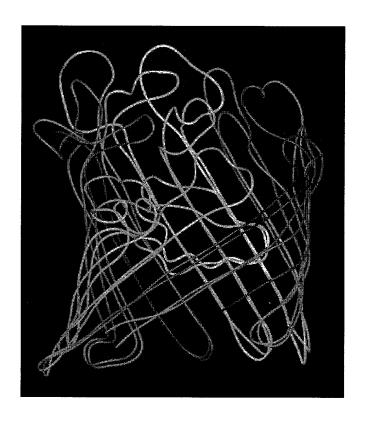


FIGURE 36

P1;2mpr structureX: 2mprA : 2 : : 427 : : DFHGYARSGIGWTGS-------G---GEQQC------FQA--TGAQSKYRLGNE--------CETYAELKLGQEVWKEGDKSFYFDTNVAYSVNQQND--WEST-DPAFREANVQGKNL---IEWLPGSTIW  ${\tt AGKRFYQRHD---VHMIDFYYWDISGPGAGIENIDLGFGKLS-LAATRSTEAGGSYTFSSQNIYDEVKDTAN}$  ${\tt DVFDVRLAGLQTNPDGVLELGVDYGRANTTDGYKL-ADGASKDGWMFTAEHTQSMLKGYNKFVVQYATDAMT}$ TQGKGQARGSDGSSSFTEKINYANKVINNNG-NMWRILDHGAISLGDKWDLMYVGMYQNIDWDNNL--GTEW WTVGVRPMYKWTPIMSTLLEVGYDNVKS-QQ----TGDRNNQYKITLA-QQ---WQAGDSIWSRPAIRI FATYAKWDEKWGYIKDGDNISRYAAAT-NSGISTNSRGDSDEWTFGAOMEIWW\* >P1;1a0tP sequence: 1a0tP : 4 : : 413 : EFHGYARSGVIMNDSGASTKSGAYITPAGETGG------AIGRL-----GNQ--------ADTYVEMNLEHKQTLDNGATTRFKVMVADGQTSYNDWTASTS-DLNVRQAFVELGNLPTFAGPFKGSTLW AGKRF--DRDNFDIHWIDSDVVFLAGTGGGIYDVKWNDGLRSNFSLYGRNFGDIDDSSNSVQNYILTMNHFA GPLQMMVSGLRAKDNDERKDSNG-NLAKGDAANTGV----HALLGLHNDSFYGLRDGSSKTALLYG-HGLG AEVKGIGSDGA-----LRPGADTWRIASYGTTPLSENWSVAPAMLAQRSKDRYADGDSYQW ATFNLRLIQAINQNFALAYEGSYQYMD--LKPEGYNDRQAVNGSFYKLTF--APTFKVGSIGDFFSRPEIRF YTSWMDWSKKLNNYASDDALGS---DGF-----NSGGEWSFGVQMETWF\*

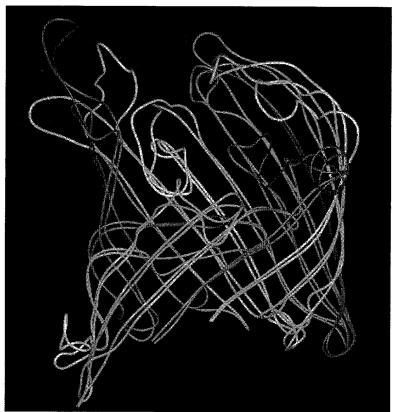


FIGURE 38